

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

F'REAL FOODS, LLC & RICH PRODUCTS
CORP.,

Plaintiffs,

v.

HAMILTON BEACH BRANDS, *et al.*,

Defendants.

Civil Action No. 16-41-GMS

**ORDER CONSTRUING THE TERMS OF U.S. PATENT NOS. 5,803,377; 7,144,150;
7,520,658; and 7,520,622.**¹

After considering the submissions of the parties and hearing oral argument on the matter, IT IS HEREBY ORDERED, ADJUDGED, and DECREED that, as used in the asserted claims of U.S. Patent Nos. 5,803,377 ("the '377 Patent"); 7,144,150 ("the '150 Patent"); 7,520,658 ("the '658 Patent"); and 7,520,622 ("the '622 Patent"):

1. The term "**rinse chamber**" in the '150 patent is construed to mean "an enclosure in which a rinse apparatus is positioned to provide rinsing."²

¹ All docket citations refer to Civil Action NO. 16-41-GMS. The abbreviation "Tr." refers to the transcript from the *Markman* Hearing on October 17, 2017, D.I. 78.

² The parties' dispute centers on: (1) whether the splash shield is separate from the enclosure; and (2) whether the rinse chamber confines the rinse fluid. *Markman* Hr'g Tr. 19:18-22. The disputed term should be construed as "an enclosure in which a rinse apparatus is positioned to provide rinsing" because that construction comports with both the description of the term in the asserted patent and its plain and ordinary meaning of the term.

First, contrary to Defendants' position, the specification and the prosecution history of the '150 Patent teach that the "rinse chamber" is not separate from the splash shield. *Markman* Hr'g Tr. 21: 2-9, 24:21-34. While Figures 4-7 of the '150 Patent explicitly disclose a splash shield that is within the "rinse chamber," the court is guided by the following specification language:

The trough 38, rinse nozzle 34, shaft 12, shield 22 and mixing element are preferably positioned *within an enclosure 40 having an access door 43* (as shown in FIG. 1).

2. The term “sufficient mass to retain the vessel within the holder during relative axial movement of the mixing element and vessel from the first position to the second position when liquid is present in the vessel” in the ‘658 patent is construed to be “the splash shield is heavy enough to create sufficient downward force on the vessel so as to retain the vessel within the holder when the mixing element moves upwardly in the vessel from the first position to the second position when liquid is present.”³

‘150 Patent at 3:44-47; *Lucent Technologies, Inc. v. Gateway, Inc.*, 525 F.3d 1200 (Fed. Cir. 2008). Similarly, all of the figures in the preferred embodiments show the splash shield is within, not separate from, the rinse chamber.

Defendants argue that while the specification shows the nozzle actually within the enclosure 40 in the preferred embodiment, the specification does not “really focus on the nozzle being within the enclosure.” *Markman* Hr’g Tr. 25:19-22. In making this argument, Defendants correctly explain that the ‘150 Patent specifically requires a door. There are, however, multiple doors in the preferred embodiment. For example, the door disclosed in the claim at issue is door 42. ‘150 Patent at 3:39-47. To overcome United States Patent No. 4,637,221 (“the Levine reference”) during prosecution, Plaintiffs established that Claim 15 of the ‘150 Patent was distinguishable from the Levine reference because Claim 15 recites: “having an entrance and a door movable to an *enclosed* position covering the entrance.” ‘150 Patent at Claim 15. In contrast, the Levine reference included an open blending area. Plaintiffs further cite to United States Patent No. 7,520,662 (“the ‘662 Patent”) to show that if the trap door was required as asserted in Defendant’s proposed construction, the claim would say so. *Markman* Hr’g Tr. 30:21-25. The term “rinse chamber” is used in the ‘150 Patent, but not in the ‘662 Patent. *Markman* Hr’g Tr. 31:21-23. Plaintiffs argue that Defendants improperly read in the axis location from Claims 16 and 17 of the ‘662 Patent into Claim 15 of the ‘150 Patent “wherein the providing step provides a barrier movable into a position between the chamber and the access area.” *Markman* Hr’g Tr. 28: 10-17; (D.I. 63 at 13-14.) The court agrees because the claims in the ‘150 Patent do not contain those limitations.

Second, the specification explains that the rinse chamber does not confine the rinse fluid. ‘150 Patent at 3:40-44. Instead, a drain line removes the rinse fluid from the rinse chamber. *Id.*; *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (A claim construction that excludes the preferred embodiment “is rarely, if ever, correct.”).

Finally, Plaintiffs’ construction conforms to The United States Patent and Trademark Office’s (“PTO”) construction. The court understands that the PTO uses a different standard than District Courts during claim construction—the broadest reasonable interpretation (“BRI”). Regardless of whether the BRI or *Phillips* standard is used, if a term has special meaning, the party asserting that meaning must tell the PTO. *Markman* Hr’g Tr. 12:10-14. In all four *inter partes* review (“IPR”) petitions, Defendants told the PTO “the specification does *not* provide a special meaning for any of the claim terms.” (D.I. 69 at A398-400.) Thus, the court adopts Plaintiffs’ proposed construction.

³ The court adopts the plain and ordinary meaning of the term proposed by Plaintiffs and the PTO. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (internal citations omitted). The court is guided by the ‘658 Patent’s specification language that:

the shield 22 may be weighted to ensure a good seal with the cup. This eliminates the need for springs as disclosed in Plank U.S. Pat. No. 5,145,250, or some other mechanism such as those described in Neilson U.S. Pat. Nos. 5,328,263 and 5,439,289, to hold the shield in position during mixing. Weighting the *shield* is of

3. The term **“providing a mixing machine”** in the ‘658 and ‘662 patents is construed to mean “making a mixing machine available for use.”⁴
4. The term **“while isolating the vessel from the rinsing fluid”** in the ‘662 patent is construed to have its plain and ordinary meaning.⁵

further advantage if it is heavy enough to create sufficient downward force on the cup to overcome any upward force created by the mixing blade being moved upwardly in the cup.

‘658 Patent at 3:65-67-4:1-6. As Plaintiffs point out, the plain meaning requires the showing that the lead weight is sufficient to hold the mass in the cup holder. *Markman* Hr’g Tr. 38: 22-25, 39:1-3.

Defendants argue that the “sufficient mass” in Claim 1 should be limited to the “splash shield” and include the language “without any other mechanical means.” *Markman* Hr’g Tr. 37:9-18, 39:7-12; (D.I. 63 at 15.) The court disagrees. Including “without any other mechanical means” contradicts the specification and prosecution history, which explain that while other “retention means” are not *necessary* to hold the cup in place during mixing, the claim itself does not exclude adding additional retention “means” to the device. (D.I. 67 at 17); ‘658 Patent at 4:20-23; *see A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703 (Fed. Cir. 1983).

⁴ The parties’ constructions are nearly identical except that Plaintiffs’ construction omits reference to a “mixing machine” and simply proposes “furnishing, supplying, making available, or preparing,” while Defendants’ proposed construction is “making a mixing machine available for use.”

Plaintiffs cite to extrinsic evidence to show that “providing” is a commonly used claim expression like “comprising” and that “providing” should be construed as “furnishing, supplying, making available, or preparing.” *Markman* Hr’g Tr. 40:21-24; *Meyer Intellectual Properties Ltd. v. Bodum, Inc.*, 690 F.3d 1354, 1369 (Fed. Cir. 2012). The court disagrees. In each method claim, the first step is “providing a vessel containing material to be mixed,” and the second step is “providing a mixing machine having a holder for receiving the vessel.” ‘658 Patent at Claim 6; ‘662 Patent at Claim 21. By adopting Plaintiffs’ construction, the court would essentially alter the “providing a mixing machine” step by making it a passive step that merely describes what an unspecified apparatus must have. A method step is something that must be “performed.” *Aristocrat Techs. Australia Pty. Ltd. v. Int’l. Game Tech.*, 709 F.3d 1348, 1353 (Fed. Cir. 2013). In essence, Plaintiffs’ construction would eliminate an express method step of both Claim 6 of the ‘658 Patent and Claim 21 of the ‘662 Patent by replacing it with the mere state of being “having.” *See Markman* Hr’g Tr. 41:10-11. Therefore, the court adopts the Defendants’ construction of the term.

⁵ The court finds no need to define the term “while isolating the vessel from the rinsing fluid” because the term should be given its plain and ordinary meaning. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. The court is guided by the following specification language:

Once the beverage is made, the cup holder 16 is lowered and thereby moves the cup 14 downwardly away from the blade. The descending cup carries the shield 22 downwardly until the opening 24 (or ribs 30) of the shield engages tapered portion 32 of the shaft 12. At this point, the cup 14 separates from the shield 22 and is moved by the holder 16 to the position shown in FIG. 4. The cup may then be removed from the drink machine.

‘662 Patent at 5:9-26. *Lucent Techs., Inc.*, 525 F.3d at 1200; *Markman* Hr’g Tr. 43:16-22. Defendants’ construction improperly introduces the word “shielding” as a negative limitation by arguing that a “barrier” or “door” must shield the rinsing fluid from the vessel. *Markman* Hr’g Tr. 44:1-3, 49:24-25-50:1-5. Dependent Claims 16 and 17 recite a “barrier” and a “door,” but the court will not read those claim limitations into independent Claim 21. *Phillips*, 415 F.3d at 1314-15 (discussing claim differentiation).

5. The term **“frozen substance”** in the ‘377 patent is construed to have its plain and ordinary meaning.⁶
6. The term **“grinding means for . . . grinding the frozen substance to form a ground substance”** in the ‘377 patent is construed as a means-plus-function term. The **claimed function** is: “grinding the frozen substance to form a ground substance.” The **corresponding structure** is: “sharp depressed edge(s) of a rotatable blade having a slim cross-sectional profile.”⁷

Defendants argue that Plaintiffs’ construction removes the claimed word “while,” and that all words of the claim must have some meaning. *Markman* Hr’g Tr. 46:21-23. It is well-known, however, that this judge does not generally entertain arguments for indefiniteness at this stage in the proceedings. That is the exact argument Defendants advanced during the *Markman* Hearing.

⁶ The court adopts the plain and ordinary meaning of the term. “In some cases, the ordinary meaning of claim language as understood by the skilled artisan may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. The specification states that “[t]he frozen substance preferably comprises all the ingredients required to make a milkshake, with the exception of the milk and air (which gives the milkshake its volume and texture, and improves flavor delivery).” ‘377 Patent at 3:49-52.

Defendants argue that during prosecution, the applicant distinguished the prior art as “pre-aerated,” emphasizing in the invention that there was “no pre-aeration of the frozen substance claimed.” (D.I. 70 at A809.) Defendants cite to Patent No. 5,962,060 (“the ‘060 Patent”), the parent application to the ‘377 Patent, arguing that it provides the proper scope of the term “frozen substance.” Plaintiffs counter that Claim 25 of the ‘060 Patent is written as a method claim and uses the phrase, “which is not pre-aerated.” *Markman* Hr’g Tr. 56:18-25-57:1-3. Thus, it seems that if the applicant intended to disclaim a “pre-aerated” substance, they know how to say so. Because the ‘377 Patent claims do not contain the limitation “which is not pre-aerated,” there is no clear disavowal of the phrase “pre-aerated” in the claims at issue.

Second, Defendants argue that during prosecution applicant repeated the disclaimer when distinguishing a “frozen substance” from mixing a pre-aerated substance like ice cream. (D.I. 70 at A1043-44.) For example, during prosecution, the Applicant remarked that:

[i]t can be easily appreciated by those both skilled and unskilled in the art that simply softening traditional ice cream using a drink mixer will not turn the ice cream into a frozen particulate substance. Moreover, there is no fair suggestion to modify the Hamilton Beach recipe to grind a block of frozen substance to produce a ground frozen particulate substance.

(D.I. 70 at A1043). The court rejects Defendants’ prosecution disclaimer argument. To prevail, Defendants must establish the allegedly disavowing statements were clear and unambiguous. *Salazar v. Procter & Gamble, Co.*, 414 F.3d 1342, 1344 (Fed. Cir. 2005). They have not. The specification states “the frozen substance preferably comprises all the ingredients required to make a milkshake[.]” ‘377 Patent at 3:49-59; (D.I. 67 at 4.)

⁷ The court adopts Plaintiffs’ proposed construction. In determining the structure, the court looks to the recited functions. *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1370 (Fed. Cir. 2001); *Micro. Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999) (“[n]or does the statute permit incorporation of structure from the written description beyond that necessary to perform the claimed function.”). The recited functions are “grinding the frozen substance to form a ground substance” and shaving the frozen substance. The corresponding structure that performs these functions are the sharp depressed edges on a rotatable blade having a “slim cross-sectional

7. The term “**shaving elements**” in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “shaving a frozen substance.” The corresponding **structure** is: “sharp depressed edge(s) of a rotatable blade having a slim cross-sectional profile.”⁸
8. The term “**aeration means for . . . causing air to be incorporated into a mixture**” in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “causing air to be incorporated into a mixture.” The corresponding **structure** is: “curved, wave-like structure(s) on a rotatable blade with a slim cross-sectional profile.”⁹

profile.” ‘377 Patent at 9:11-15. To perform the function, the preferred rotatable blade 76 shown in Figures 10A-C has depressed regions 120 formed immediately adjacent to holes 118a-c. ‘377 Patent at 7:19-21. The “depressed regions 120 grate through the frozen substance” to allow frozen substance shavings to pass through holes 118a-c. ‘377 Patent at 7:22-27. The preferred rotatable blade 76, has a trailing edge 130 along the perimeter of the blade and is also “depressed to act as a grating surface to bore through the frozen substance at the outermost radius of the blade.” ‘377 Patent at 7:48-54.

Defendants argue Plaintiffs are limited to the structure of blade 76 for the “grinding means” because it is the “sole embodiment” disclosed. *Markman* Hr’g Tr. 64:23-25. The court disagrees. A means-plus-function claim should be construed to “embrace [all] distinct and alternative described structures for performing the claimed function.” *Crea Prods., Inc. v. Presstek, Inc.*, 305 F.3d 1337, 1346 (Fed. Cir. 2002). During reexamination, the PTO explained that the claim “is not seen to require any set number of holes or specific spacing” like Defendants’ proposed structure. (D.I. 69 at A737-38.)

⁸ The court adopts Plaintiffs’ proposed construction of the term “shaving elements.” See *Markman* Hr’g Tr. 65:12-19. The function of “shaving elements” is to “shave[] a frozen substance.” ‘377 Patent at 7:19-35. For the corresponding structure, the specification describes both the preferred rotatable blade 76 and a trailing edge 130, which bore through holes 118a-c to allow frozen shavings to pass through. ‘377 Patent at 7:19-35, 48-54.

Defendants argue that “[s]having is not an equivalent of grading” and that “there is no structure” to support “shaving elements.” *Markman* Hr’g Tr. 65:8-11. Defendants, therefore, argue that the claim term containing “shaving elements” is invalid under 35 U.S.C. § 112, ¶ 6. (D.I. 65 at ¶ 36.) As already noted, this is perhaps an argument for another day.

⁹ The court adopts the Plaintiffs’ proposed construction. While the parties’ proposed functions differ slightly, both agree the function includes the language “causing air to be incorporated into a mixture.” ‘377 Patent at Claim 1. Defendants add extraneous elements to the claimed function by importing a goal stated in the “Background of the Invention” of increasing the total volume of the frozen drink by at least 15%. *Markman* Hr’g Tr. 65:19-23. The claims, however, do not include an increase in volume. Therefore, the court will not add in extraneous limitations to the function of the claim. *Micro. Chem., Inc.*, 194 F.3d at 1258.

Turning to the structure, the ‘377 specification explains that the slim wave-like structure of the blade when rotated at high speed accomplishes the aeration function. ‘377 Patent at 7:43-47. The PTO recognized that it is irrelevant that the blade also includes “grinding means” and that it is inconsequential how many waves appear on the blade and their exact dimensions. (D.I. 69 at A738.) Defendants argue that the only claimed structure for the aeration means are waves 122 deployed in a specific arrangement on blade 76. (D.I. 64 at 14.) Defendants cite to the Tomlinson reference in the prosecution history to argue that the specification disclosed a particularly shaped wave and that applicant disavowed merely any kind of curve or wave when arguing that the referenced prior art’s “blades 44 [which]

9. The term **“means for . . . directing liquid from above the upper surface of the blade assembly to below the blade assembly”** in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “directing liquid from above the upper surface of the blade assembly to below the blade assembly.” The corresponding **structure** is: “a rotating blade having three pairs of cutouts at the perimeter of the blade spaced 120° from each other, the cutouts including a trailing edge that is elevated above the rotational plane of the blade to form an inverted ramped surface for the liquid.”¹⁰
10. The term **“blade assembly including shaving elements and aeration elements”** in the ‘377 patent is construed to have its plain and ordinary meaning.¹¹

are given a suitable pitch or twist” do not perform aeration as claimed. (D.I. 70-1 at A811, A827) (citing Tomlinson at 5:13-18). The cited reference is, however, distinguishable because the Tomlinson patent does not disclose aeration at all. *Markman Hr’g Tr.* 80:10-14, 24-25. Thus, the court adopts Plaintiffs’ proposed structure.

¹⁰ The court adopts the Defendants’ proposed construction. The parties agree on the claimed function. In determining the corresponding structure, a court must look to the specification to determine the structures that correspond to the claimed function. “[S]tructure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *B. Braun Med. Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed.Cir.1997). If a patentee chooses to disclose a single embodiment, then any means-plus-function claim limitation will be limited to the single disclosed structure and equivalents thereof. *Mettler-Toledo, Inc. v. B-Tek Scales, LLC*, 671 F.3d 1291, 1296 (Fed. Cir. 2012) (citing *Nomos Corp. v. Brainlab U.S.A., Inc.*, 357 F.3d 1364, 1368 (Fed.Cir.2004)); *see also Ishida Co., Ltd. v. Taylor*, 221 F.3d 1310, 1316 (Fed. Cir. 2000).

According to Defendants, the ‘377 Patent discloses a single embodiment for the claimed invention. ‘377 Patent at 7:48-64. Figures 10A-10C describe the sole disclosed embodiment of blade 76 and show the cutouts 128 with elevated trailing edges 132. ‘377 Patent at Figs. 10A-10C. Similarly, Plaintiffs confirm the exact arrangement of blade 76 is essential to the claimed “means for directing liquid.” (D.I. 70, Ex. 27 at JA847-53.) Because no other disclosed structure exists, the claim is limited to the arrangement of cutouts 128 and elevated edges 132 on blade 76.

¹¹ “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. This is one of those instances.

The ‘377 Patent specification states that the embodiment illustrated in Figures 10A-10C is *preferred* and that “[o]ther arrangements with differing size or shaped holes will also work well.” ‘377 Patent at 7:33-35; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347, 1352 (Fed. Cir. 2015). Defendants argue that during prosecution the applicant narrowed Claim 27 to include “a rotatable blade having shaving elements and aeration elements formed thereon.” (D.I. 70 at A845.) Defendants argue this limitation, and similar limitations in Claims 1 and 11, were only allowable because the prior art “fail[ed] to disclose or fairly suggest a rotatable blade including both shaving elements and aeration elements.” (D.I. 70 at A845.) The court disagrees.

11. The term **“control means for causing the blade assembly to move between the upper and lower blade positions at least twice”** in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “causing the blade assembly to move between the upper and lower blade positions at least twice.” The corresponding **structure** is: “a microprocessor programmed to instruct the carriage motor to move the blade assembly between the upper and lower blade positions at least twice.”¹²
12. The term **“control means responsive to the output of the cup sensor for generating blade rotation speed and vertical blade positioning control signals which correspond to the size of the cup detected by the cup sensor”** in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “generating blade rotation speed and vertical blade positioning control signals which correspond to the size of the cup detected by the cup sensor.” The corresponding **structure** is: “a microprocessor programmed to generate control signals for the carriage motor to

¹² For the remaining claims, Defendants grouped all of their “control means” arguments together in their briefs, which led to duplicative arguments for the disputed terms. (D.I. 63, 68.) During the *Markman* Hearing the court heard all “control means” arguments together. *Markman* Hr’g Tr. 12-18. The court does not agree with this grouping because the terms each have varying structures. For brevity, the court will avoid repeating duplicative arguments.

The parties’ dispute centers on “control means” for controlling a blade assembly while it is moving. *Markman* Hr’g Tr. 84:1-3. Both parties agree on the function of this element. The corresponding structure is construed to mean “a microprocessor programmed to instruct the carriage motor to move the blade assembly between the upper and lower blade positions at least twice.” ‘377 Patent at 4:37-42, 8:5-24, 9:6-29, 10:39-49. The court is provided further guidance by the specification, which states that:

At step 312 the microprocessor further directs the carriage motor 32 to advance the carriage 44 by the appropriate number of steps which will cause the blade 76 to move to the bottom of the cup (step 314).

‘377 Patent at 10:45-49; *Markman* Hr’g Tr. 85:7-11. Thus, the claimed structure is the *programmed* microprocessor where the carriage motor performs the claimed function.

Defendants acknowledge that the Plaintiffs’ construction is representative in that the “control means” sends out control signals to either control the speed of the blade signal or the vertical position of the blade. *Markman* Hr’g Tr. 89:12-19. Defendants argue that in doing this, however, the microprocessor requires feedback from sensors to perform that function. *Markman* Hr’g Tr. 89:20-22. Defendants argue the algorithm in Figure 11 is the sole disclosed structure. *Markman* Hr’g Tr. 90:4-6, 91:9-10. The court disagrees. The algorithm disclosed in Figure 11 discloses the function of the microprocessor itself, which is not the narrow issue in this claim. ‘377 Patent at 3:7-8. Again, Defendants include extraneous limitations in their proposed structure that are not necessary to perform the claimed function. Therefore, the court will not give the claim term special meaning. *Micro. Chem., Inc.*, 194 F.3d at 1258.

vertically position the blade assembly and for the blade motor to rotate the blade at predetermined speeds corresponding to the size of the cup detected by the cup sensor.”¹³

13. The term **“control means for generating up and down blade movement control signals and blade rotation control signals”** in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “generating up and down blade movement control signals and blade rotation control signals.” The corresponding **structure** is: “a microprocessor programmed to generate control signals for the carriage motor to move the blade assembly up and down and for the blade motor to rotate the blade.”¹⁴
14. The term **“control means is further for generating blade speed control signals to reduce the rotational speed of the blade assembly when the blade assembly is moved to a first level and to increase the rotational speed of the blade assembly**

¹³ The remaining “control means” terms focus on “generating” control signals. *Markman* Hr’g Tr. 84:5-6. The parties agree on this term’s function. ‘377 Patent at 5:24. The parties’ dispute centers on whether the microprocessor is a program that performs each of the “control means.” *Markman* Hr’g Tr. 90:15-17. Plaintiff’s proposed structure refers to the cup size for generating control signals, which reflects the narrow function of the claim term. *Markman* Hr’g Tr. 94:3-6. Defendants, however, include all structures that refer to the microprocessor without determining the necessary structure for the claimed function at issue. *Markman* Hr’g Tr. 90:18-19.

As described in the ‘377 Patent, the microprocessor performs many functions including receiving sensor signals, looking up information from memory, sending control signals to motors, and sending control signals to pumps. ‘377 Patent at 9:63-11:17. *Asyst Techs., Inc.*, 268 F.3d at 1370. Specifically, the specification states that:

the stored values retrieved at step 308 are used to generate control signals which control the carriage motor 32, blade motor 34, and peristaltic pump 26. Specifically, the microprocessor at step 310 instructs the carriage motor 32 to advance the carriage by the appropriate number of steps to position the blade 76 just above the surface 206 of the frozen block.

‘377 Patent at 10:39-45. The court, therefore, adopts the Plaintiffs’ proposed structure.

¹⁴ The parties’ constructions of the function are nearly identical except that Defendants’ proposed construction includes “blade/slidable shaft movement,” while Plaintiffs’ only recites “blade movement.” The court adopts Plaintiffs’ proposed construction because the claim at issue describes the function as “blade movement.” ‘377 Patent at Claim 6. The specification describes step 308, where the microprocessor “retrieves certain cup-size dependent values from look up tables stored in its memory.” ‘377 Patent at 10:18-38. All control signals are generated *inside* the microprocessor. ‘377 Patent at 10:19-42. Therefore, the proper structure is the programmed microprocessor, not the algorithm directing the microprocessor itself. *Id.* Specifically, “control means” for generating movement of control signals and blade rotation control signals does not have anything to do with cup size and, therefore, should not be included in the corresponding structure. *Markman* Hr’g Tr. 94:7-9.

when the blade assembly is moved to a second level” in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is: “generating blade control signals to reduce the rotational speed of the blade assembly when the blade assembly is moved to a first level just below the milkshake surface and to increase the rotational speed of the blade assembly when the blade assembly is moved to a second level just above the milkshake surface.” The corresponding **structure** is: “a microprocessor programmed to generate a control signal to the blade motor as mixing is being completed to reduce the rotational speed of the blade when it is just below the milkshake surface (first level) and the, for ‘spin-off,’ to increase the rotational speed of the blade when it is just above the milkshake surface (second level).”¹⁵

15. The term **“control means responsive to activation of the initiation switch and the output of the cup sensor to cause the blade assembly to rotate and to be lowered into a cup when a cup is positioned into the cup support when a cup is detected in the cup support and when a user activates the initiation switch”** in the ‘377 patent is construed as a means-plus-function term. The claimed **function** is:


¹⁵ The parties’ construction of the function is almost identical except Plaintiffs’ construction includes the phrase “just above the milkshake surface.” The claim at issue, Claim 7, refers to the process of completing the blending cycle. ‘377 Patent at 9:30-47. Plaintiffs argue that “generating” means reducing the rotational speed of the blade while mixing occurs where the blade is just below the milkshake surface and then, for “spin and fling,” increase in the rotational speed of the blade when it is just above the milkshake surface. (D.I. 67 at 13.) The concept of “spin and fling” is described in the specification, which states:

[w]ith the mixing and whipping process complete, and the blade reaching the point *one inch below the surface* 210 (Fig. 6B) *of the milkshake* 212, the blade motor 34 is deactivated and a braking force applied to the blade motor to slow its rotational speed. . . [w]ith the carriage stopped momentarily, the blade motor is reactivated momentarily, *causing* the blade to *spin and fling* any remaining milkshake material off the blade and back into the cup below its upper lid.

‘377 Patent at 9:30-47, 11:6-10. The court agrees. The specification teaches that the claim limitations refer to the process of completing the blending cycle. ‘377 Patent at 9:30-47, 11:6-10. Defendants, again, argue that the microprocessor only provides basic functions and that the algorithm in Figure 11 must be included. The court disagrees because the claimed function is *generating* control signals, not *implementing* them by causing motor operation. Therefore, the court adopts Plaintiffs’ proposed construction for both the function and the corresponding structure.

“generating the blade movement control signals and the blade rotation control signals in response to activation of the initiation switch and the output of the cup sensor to allow the blade assembly to rotate and to be lowered into a cup when a cup is detected in the cup support and when a user activates the initiation switch.” The corresponding **structure** is: “a microprocessor programmed to generate, after receiving appropriate inputs from the initiation switch that the user wants to begin blending and from the cup sensor that a cup is detected in the cup support, control signals to the carriage motor to lower the blade assembly into the cup and to the blade motor to rotate the blade assembly.”¹⁶

Dated: November 29, 2017


UNITED STATES DISTRICT JUDGE

¹⁶ The parties make no specific argument for the structure of Claim 19 in their briefs or at the *Markman* Hearing. The parties agree on the construction of the function. Defendants proposed structure includes limit switches, instructing the carriage motor to advance to the surface of the frozen drink, and directing the blade motor to activate the blade. These are not proper structures for the agreed upon function. The specification explains that:

[a] frozen drink making operation is commenced at step 300 when a user presses the start button 37 (FIG. 2). Next the microprocessor 35 detects whether at least one of the limit switches 33a, 33b (FIGS. 8A and 8B) is closed, which indicates the presence of a cup 200 in the cup housing 16.

‘377 Patent at 9:66-67-10:1-5. The specification further provides that the “microprocessor directs the carriage motor 32 to advance the carriage 44 by the appropriate number of steps which will cause the blade 76 to move to the bottom of the cup (step 314).” ‘377 Patent at 10:45-50. Therefore, the court adopts the Plaintiffs’ proposed construction for the structure.